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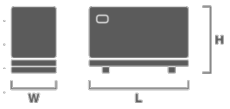
INDUSTRIAL RANGE — GENSET 450 KVA IVECO / GRUPEL

1. MAIN FEATURES

T	Three-phase		Oil
	Iveco / C13 TE3A		Grupel / 314GB400
	Grupel / G545	Hz	50 Hz
	1500 r.p.m.	V	400 V
cos φ	0.8		630 A

Standby Power(ESP)	440 kVA	352 kW
Prime Power (PRP)	400 kVA	320 kW
Continuous Power(COP)	-	-

SOUNDPROOF	
Length (L)	4020 mm
Height (H)	2155 mm
Width (W)	1430 mm
Weight	3637 kg
Daily tank	1000 L
Acoustic pressure level @ 1m	85 ± 2 dB(A)
Acoustic pressure level @ 7m	77 ± 2 dB(A)



2. ROOM INSTALLATION

EXHAUST SYSTEM	50 Hz		
	COP	PRP	ESP
Exhaust gas temperature (°C)	-	445	-
Exhaust gas flow (m³/min)	-	-	2210
Evacuated heat (kW)	-	299.4	327.9
Maximum back pressure (kPa)		5	
Exhaust silencer attenuation (dB)		18-25	
Output diameter (mm)		168	

VENTILATION SYSTEMS	50 Hz		
	COP	PRP	ESP
Combustion air flow (m³/min)	-	29.5	-
Cooling airflow (m³/min)		408	
Maximum load losses (Pa)		196	
Alternator cooling air flow (m³/min)		29.76	

RADIATION	50 Hz		
	COP	PRP	ESP
Engine (kW)	-	13.6	14.9
Alternator (kW)	22.4	22.4	24.64

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3. ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS	50Hz
Model	C13 TE3A
Emissions (UE/USEPA)	Not applicable / Not applicable
Performance grade	G2
Operating method	4 stroke
Fuel type	Oil
Refrigeration system	Closed water circuit / antifreeze
Aspiration system	Turbocharged
Injection system	Direct
No. and Cylinder arrangement	6 In-line
Displacement (L)	12.88
Cylinder bore (mm)	135
Cylinder stroke (mm)	150
Compression ratio	16,5:1
Regulation	Electronic
Rotation speed (r.p.m.)	1500
Piston speed (m/s)	7.5
Gross power COP (kWm)	-
Gross power PRP (kWm)	366.2
Gross power ESP (kWm)	401
Fan Power (kWm)	- / 14 / 10
Net Power COP (kWm)	-
Net Power PRP (kWm)	352
Net Power ESP (kWm)	390.87
BMEP COP (kPa)	-
BMEP PRP (kPa)	2259
BMEP ESP (kPa)	2484.5

CONSUMPTION	50 Hz	
Fuel consumption	l/h	g/kWh
ESP	100.5	211
PRP	85.8	197
COP	-	-
75%	70.4	199.7
50%	42.8	196.7
Oil consumption	< 0.2% of fuel consumption	

REFERENCE CONDITIONS	
Temperature (°C)	25
Atmospheric pressure (kPa)	100

CAPACITY (°C)	
Coolant (L)	68
Oil (L)	35

STARTING SYSTEM	
Voltage (V)	24
Power (kW)	6
Battery (Ah)	140

4. ALTERNATOR SPECIFICATIONS

GENERAL SPECIFICATIONS	
Model	314GB400
Phases No.	Three-phase
Protection	IP23
Insulation	H
Temperature rise	H
R.F.I. telephone interference	THF < 2%
R.F.I. Suppression	BS EN 61000-6-2 /6-4,VDE 0875G, VDE 0875N
Coupling	Flexible disks
Support	Single bearing

Wave form distortion with no load	< 1,5%
Wave form distortion with balanced linear load	< 5%
Winding Leads	12
Excitation (standard/optional)	Autoexcitado / PMG
AVR Model (standard/optional)	SX440 / MX341
Voltage Regulation (standard/optional)	± 1 % / ± 0,5 %
Icc (standard/optional)	- / 3In:10s

			Power	Efficiency			
PF (cos Ø)	Phase	Voltage (V)	PRP/ESP (kVA)	PRP/ESP (%)	Xd	X'd	X"d
0.8	Three-phase	400	400 / 440	93 / 93	2.16	0.13	0.1

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5. CONTROL PANEL

GENSET	Grupel G545
Voltage (F-F / F-N)	● / ●
Current intensity	●
Frequency	●
RMS Values	●
Generator phase sequence	●
Generator earth current [a]	○
No. of registers events	400
Real time clock	●
PIN Protection	●
kWh, kVAr, kVAh, kVArh, cos Ø	●
Synchroscope [i]	○
Nº of available outputs [b]	4
Indication of alarms on LCD	●
Engine run hours	●
Total no. of LED indicators	15
No. of LED alarms	4
Sound signalling alarms	-
Scheduler	●
Fuel level	●

ELECTRICAL NETWORK	Grupel G545
Voltage (F-F / F-N)	● / ●
Current [a]	○
Frequency	●
kVA,kW, cos Ø [a]	○
Inversion control between main-group	●

PROTECTIONS AND ALARMS	Grupel G545
High / low battery voltage	A
Failure in battery charge alternator	A
Failure to stop	A/S
Failure to start	A/S
Low fuel level	A/S
Overload	A/S
Earth leakage	A/S
Asymmetry between phases	A/S
Maintenance	A/S
High / Low generator frequency	A/S
Engine overspeed	A/S
Engine underspeed	A/S
Generator overvoltage	A/S
Generator undervoltage	A/S
ECU Alert (if applicable)	A/S
Low oil pressure	A/S
Low level of radiator water [f]	A/S
Engine high temperature	A/S
Fuel leakage/ theft	A

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6. CONTROL PANEL

ENGINE	Grupel G545
Engine speed	●
Low oil pressure protection	●
Oil pressure reading [c]	○
High temperature engine protection	●
Engine temperature reading [c]	○
Engine battery voltage	●
Intensity of the engine battery [d]	○
Fuel Consumption [e]	●
Low level of radiator water [f]	○
Engine maintenance scheduled	●

COMMUNICATION	Grupel G545
USB female type B (max. 6m)	●
USB female type A [g]	○
RS232 port (max. 15m)	-
RS485 port (max. 1,2Km)	●
Ethernet port RJ45 [g]	○
GSM + location via MLAT [h]	○
ModBus RTU protocol	●
ModBus TCP protocol [g]	○
SNMP protocol [g]	○
CAN port (max. 40m)	●
MSC port (max. 240m) [i]	○
PLC functionality	●

APPLICATIONS	Grupel G545
Automatic or manual starting	●
Remote start by NO dry contact	●
Automatic by mains failure	●
Alternating with timesharing	●
Multi-generators synchronization and load sharing (max. 48 generators) [i]	○
Generator-Main in synchronism and load sharing (1 generator and 1 main) [i]	○

OPTIONAL EXPANSIONS	Grupel G545
G-08 (8 dig. inputs)	○
G-06 (8 relay outputs)	○
G-GSM (GSM and/or GPS by MLAT)	○
G-ETH (ethernet module)	○
G-ETH (ethernet module according SNMP protocol)	○
G545 (mirror controller, maximum distance 1km)	○
G175 (convert QTC into QTA)	○
G545 (convert QTC into QTA)	○

STANDARDS	
Working temperature	-30 ≤°C ≤ 70
Protection index (when assembled with sealing gasket)	IP65 - Quando montado com junta de vedação
Degree of humidity (during 48hr)	93%, 40°C durante 48h

Legenda	
●	Available
○	Optional
-	Not available
A	Warning Alarm
S	Stop alarm
[a]	Need additional CT
[b]	No. of outputs available for standard configuration. The outputs do not include relays and additional terminal connections.
[c]	If the information is not provided by the engine-ECU, you need an additional sensor
[d]	Needs additional ammeter
[e]	If information provided by the engine ECU
[f]	Required additional sensor
[g]	Requires G-ETH
[h]	Requires G-GSM
[i]	Requires G-Sync

Dimensions and guiding weights. Environmental reference conditions: 100kPa, 25 °C, 30% relative humidity and fuel temperature below 40 °C. Power ratings according to ISO 8528-1:2018.

Emergency power (ESP): Maximum power available to supply variable loads for a maximum period of 200h/year. The average load factor in 24h of operation must not exceed 70% of the ESP regime. It does not allow overload.

Prime power (PRP): Maximum power available to supply variable loads for an unlimited number of hours. The average load factor in 24 hours of operation must not exceed 70% of the PRP rating. Allows an overload of 10% for a maximum period of 1 hour every 12 hours of operation. Overloading may not exceed 25 hours/year.

Continuous power (COP): Maximum power available to supply constant loads for an unlimited number of hours per year, between the maintenance intervals and environmental conditions advertised by the manufacturer.

These specifications are subject to change without notice.

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